

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

In re Application of:	)
WANLASS et al.	) Group Art Unit: 1795
Application No.: 10/551,598	) Examiner: Golam Mowla
Filed: September 30, 2005	) Confirmation No.: 1452
Attorney Docket No.: NREL 01-52	)
For: MONOLITHIC PHOTOVOLTAIC	)
ENERGY CONVERSION DEVICE	)

Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

**RESPONSE TO RESTRICTION REQUIREMENT**

Sir:

In an Office Action dated August 6, 2009, the response period for which expires on September 8, 2009 (September 6 being a Sunday and September 7 being a national holiday), the Examiner required restriction under 35 U.S.C. §§ 121 and 372 between two groups:

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|-----------------|--|
| <b>Group I</b>  | Claims 1-75, drawn to a photovoltaic cell/device;<br>and |
| <b>Group II</b> | Claims 76-77, drawn to a light emitting diode.           |

According to the Office, Groups I and II are not so linked as to form a single general inventive concept under PCT Rule 13.1 and therefore restriction of the invention to one of the two listed groups is required under 35 U.S.C. §§ 121 and 372. Office Action, page 2. Applicants respectfully traverse.

Specifically, the Office contends that Groups I and II lack a common special technical feature over what is disclosed in U.S. Patent No. 5,912,068 to Jia. Applicants

submit that each of the claims in Groups I and II share a special technical feature that is not disclosed in the '068 patent. Namely, each claim shares a compliant substrate comprising a base layer of silicon having a layer of perovskite oxide positioned thereon and a layer of silicon oxide interposed there between, the silicon oxide layer providing interfacial stress relief to the underlying perovskite oxide layer, allowing the compliant substrate to accommodate growth of semiconductor materials having a lattice constant from about 5.4 angstroms to about 5.9 angstroms. The '068 patent, at best, discloses a distinct substrate that does not share the structure or properties recited above.

Accordingly, Applicants respectfully request that the Restriction Requirement be withdrawn. However, to be fully responsive, Applicants provisionally elect to prosecute Group I, claims 1-75, drawn to a photovoltaic cell/device.

The Examiner has also indicated that claims 1, 50, 55 and 68 are generic and required the election of a single species of compound (Ga- or Ge-based). Office Action, pages 2-3. The Examiner has further required that, in the event that Ga-based compounds are elected, a subspecies of compound (Ga, In, As and P or Ga, In, As and Sb) must also be elected. *Id.* Applicants traverse the election of species requirement on the grounds that all of the identified species and subspecies share the special technical feature recited previously. As discussed above, and contrary to the Office's assertion, this technical feature is not disclosed in the '068 patent.

Accordingly, Applicants respectfully request that the full scope of the claimed invention be examined in this application without an election requirement. However, to be fully responsive, Applicants provisionally elect Species A comprising gallium-based compounds and Sub-Species A<sub>1</sub> (Ga, In, As and P) for prosecution. If the Examiner chooses to maintain the election requirement, and should the elected species be found allowable, Applicants expect the Examiner to continue to examine the full scope of the claimed subject matter to the extent necessary to determine the full scope of the patentability thereof, i.e., extending the search to the non-elected species, as is the duty of the Examiner according to M.P.E.P. § 803.02 and 35 U.S.C. § 121.

As discussed above, Applicants respectfully traverse the restriction and election of species and sub-species requirements. However, to be fully responsive, Applicants provisionally elect to prosecute Group I, claims 1-75. Further, Applicants provisionally

elect Species A and Sub-Species A<sub>1</sub> for prosecution in the instant application. Claims 1-9, 11-40, and 42-75 of Group I read on these elected species and sub-species.

If the Examiner believes a telephone conference would be useful in resolving any outstanding issues, the Examiner is invited to call the undersigned at 303-384-7551.

The response period for this communication expires September 8, 2009 (September 6 being a Sunday and September 7 being a national holiday). Accordingly, no extension-of-time fees are believed due. In the event that any fees are due in connection with this response, please debit Deposit Account No. 14-0460.

Respectfully submitted,

Dated: September 8, 2009

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